

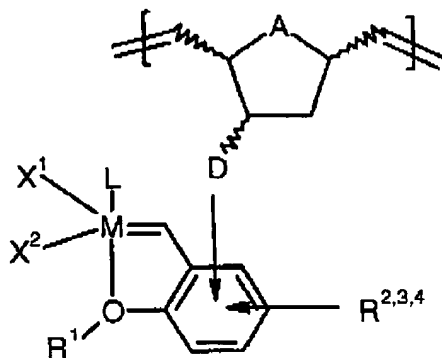
AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A polymeric transition metal catalyst comprising a polymeric compound ~~Polymeric compounds~~ containing at least one transition metal catalyst comprising: at least

• at least one structural units unit of the formula (Ia)[.];

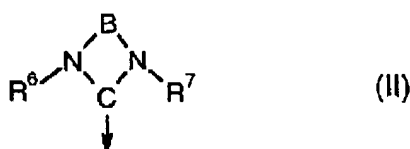


where:

M is a transition metal of the 8th transition group of the Periodic Table[.];

X¹ and X² are the same or different and are each chlorine, bromine or iodine[.];

L is an N-heterocyclic carbene ligand of the formula (II);



where the direction of the arrow is intended to represent the bond to M
and where:

B is a 1,2-ethanediyl or 1,2-ethenediyl radical which is optionally mono- or disubstituted by C₁-C₄-alkyl, C₆-C₁₅-arylalkyl or C₅-C₁₄-aryl; and

R⁶ and R⁷ are each independently C₁-C₂₀-alkyl or C₅-C₂₄-aryl;

R¹ is cyclic, straight-chain or branched C₁-C₂₀-alkyl or C₅-C₂₄-aryl;
and

R², R³ and R⁴ are each independently hydrogen, C₁-C₂₀-alkyl, C₅-C₂₄-aryl, halogen, C₁-C₄-fluoroalkyl, C₁-C₄-alkoxy, C₅-C₁₄-aryloxy, (C₁-C₈-alkyl)OCO-, (C₁-C₈-alkyl)CO₂-, (C₅-C₁₄-aryl)OCO- or (C₅-C₁₄-aryl)CO₂-; and/or

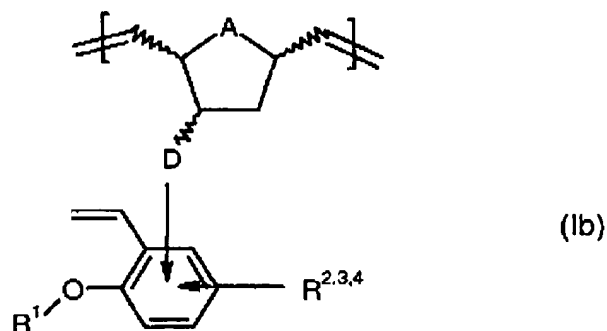
In each case two radicals in an ortho-arrangement to one another from the group of R², R³ and R⁴ are part of a cyclic system which consists of a carbon framework having 5 to 22 carbon atoms, one or more carbon atoms of the cyclic system optionally being replaced by heteroatoms from the group of sulphur, oxygen or nitrogen, and the cyclic system also being optionally mono- or polysubstituted by

radicals selected from the group of halogen, C₁-C₄-fluoroalkyl, (C₁-C₄-alkyl)OCO-, (C₁-C₈-alkyl)CO₂-, (C₆-C₁₀-aryl)OCO- or (C₅-C₁₄-aryl)CO₂-; and

A is oxygen, sulphur, sulphonyl, sulphonyl or CR⁸R⁹ where R⁸ and R⁹ are each independently hydrogen or C₁-C₄-alkyl; and

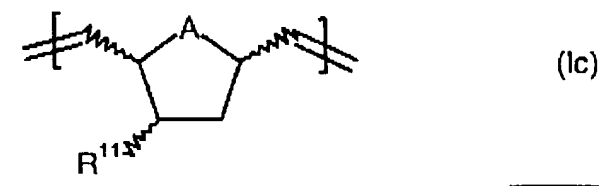
D is C₁-C₈-alkylene, [(C₁-C₈-alkylene)-O]_n where n = 1 to 12, (C₁-C₈-alkylene)CO₂-, (C₁-C₈-alkylene)-OCO-(C₁-C₈-alkylene), (C₁-C₈-alkylene)CO₂-(C₁-C₈-alkylene), (C₁-C₈-alkylene)CONR¹⁰-, (C₁-C₈-alkylene)NR¹⁰CO-, (C₁-C₈-alkylene)CONR¹⁰-(C₁-C₈-alkylene) or (C₁-C₈-alkylene)NR¹⁰CO-(C₁-C₈-alkylene) where R¹⁰ is hydrogen or C₁-C₄-alkyl; and

and at least one structural units unit of the formula (Ib):



where A, D, R¹, R², R³ and R⁴ each independently have the same definitions and fulfil the same conditions as specified under the formula (Ia); and, optionally,

at least one structural units of the formula (Ic):



where:

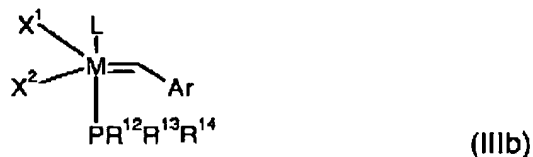
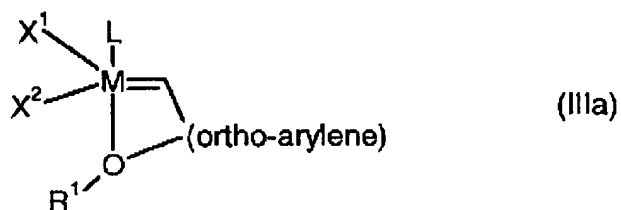
A has the same definition and fulfils the same conditions as specified under the formula (1a) in Claim 1; and

R¹¹ is C₁-C₈-alkyl, [(C₁-C₈-alkylene)-O]_n-(C₁-C₈-alkyl) where n = 1 to 12, (C₁-C₈-alkylene)CO₂-(C₁-C₈-alkyl), (C₁-C₈-alkylene)-OCO-(C₁-C₈-alkyl), (C₁-C₈-alkylene)-OCO-(C₅-C₁₄-aryl), (C₁-C₈-alkylene)CO₂-(C₅-C₁₄-aryl), (C₁-C₈-alkylene)CONR¹⁰-(C₁-C₈-alkyl), (C₁-C₈-alkylene)NR¹⁰CO-(C₁-C₈-alkyl), (C₁-C₈-alkylene)-CONR¹⁰-(C₅-C₁₄-aryl) or (C₁-C₈-alkylene)NR¹⁰CO-(C₅-C₁₄-aryl) where R¹⁰ is hydrogen or C₁-C₄-alkyl.

2. (Cancelled)
3. (Currently Amended) ~~Polymeric compounds~~ The polymeric compound according to one or more of Claims 1 and 2, characterized in that ~~they also contain further comprising at least one structural units unit which~~ are derived from olefins which are suitable for ring-opening metathesis polymerization.
4. (Currently Amended) ~~Polymeric compounds~~ The polymeric compound according to ~~one or more of Claims 1 to 3~~ Claim 1, characterized in that wherein the numerical average of the degree of polymerization (numerical average) is 6 to 2000.

5. ~~(Currently Amended)-Polymeric compounds~~ The polymeric compound according to one or more of Claims 1 to 5Claim 1, characterized in that wherein A, D, M, L, X1 and X2 and likewise R1, R2, R3, R4 and any R11 radicals present in the structural units of the formulae (Ia), (Ib) and, if present, (Ic) are each identical.
6. ~~(Currently Amended)-Polymeric compounds~~ The polymeric compound according to one or more of Claims 1 to 5Claim 1, characterized in that wherein the average proportion by weight of structural units of the formula (Ia) and of the formula (Ib) and any structural units of the formula (Ic) present is 80% or more.
7. ~~(Currently Amended)-Polymeric compounds~~ The polymeric compound according to one or more of Claims 1 to 6Claim 1, characterized in that wherein the ratio of structural units of the formula (Ia) to structural units of the formula (Ib) is 1:2 to 1:500.
8. ~~(Currently Amended)-Polymeric compounds~~ The polymeric compound according to one or more of Claims 2 to 7Claim 1, characterized in that wherein the ratio of structural units of the formula (Ia) to structural units of the formula (Ic) is 10:1 to 1:200.
9. ~~(Currently Amended)-Polymeric compounds~~ The polymeric compound according to one or more of Claims 1 to 8Claim 1, characterized in that wherein D in the structural units of the formulae (Ia) and (Ib) is bonded via the ortho-position to the olefin or the ylidene unit.
10. ~~(Currently Amended)-Polymeric compounds~~ The polymeric compound according to one or more of Claims 1 to 9Claim 1, characterized in that wherein M in formula (Ia) is ruthenium or osmium.

11. (Currently Amended)-~~Polymeric compounds~~ The polymeric compound according to ~~one or more of Claims 1 to 10~~ Claim 1, characterized in that wherein B in formula (II) is 1,2-ethanediyl or 1,2-ethenediyl.
12. (Currently Amended)-~~Polymeric compounds~~ The polymeric compound according to ~~one or more of Claims 1 to 11~~ Claim 1, characterized in that wherein R⁶ and R⁷ in formula (II) are identical and are ~~each a primary C₅-C₂₀-alkyl radicals, with the proviso that wherein the carbon atom bonded to the nitrogen atom bears a tertiary alkyl radical, or are each a secondary C₃-C₂₀-alkyl radicals, a tertiary C₄-C₂₀-alkyl radicals, or a mono- or poly-substituted phenyl radicals which is further mono- or polysubstituted, although at least wherein substitutions are in an~~ ortho-position, by C₁-C₄-alkyl radicals.
13. (Withdrawn) Process for preparing polymeric compounds, characterized in that compounds of the formula (IIIa) and/or (IIIb)



where

R^1 , L, X^1 and X^2 each have the definition and areas of preference specified in Claim 1 under formula (Ia) and

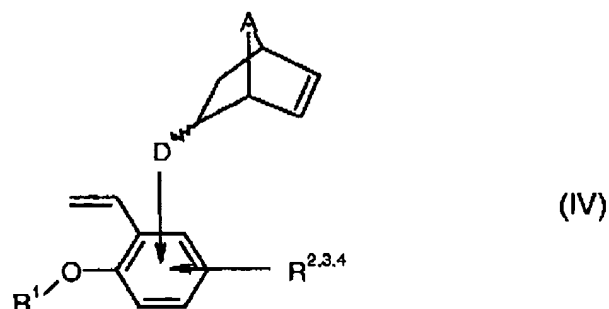
ortho-arylene is an ortho-phenylene or ortho-naphthylene radical, for example 1,2-naphthylene, and the radicals mentioned may also be substituted by one, two, three or four radicals per cycle which are selected from the group of C_1 - C_4 -alkyl, C_5 - C_{14} -aryl and C_1 - C_4 -alkoxy and

Ar is C_5 - C_{14} -aryl and

R^{12} , R^{13} and R^{14} are each independently C_1 - C_8 -alkyl or C_5 - C_{14} -aryl

are reacted

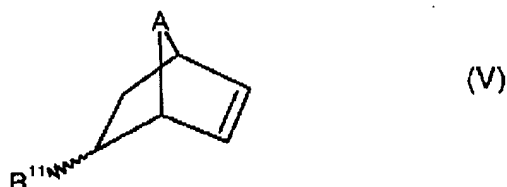
- with at least one compound of the formula (IV)



where

R^1 , R^2 , R^3 , R^4 , A and D have the definition and areas of preference specified under formula (Ia) in Claim 1.

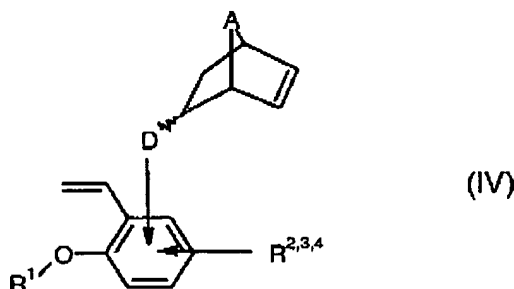
14. (Withdrawn) Process according to Claim 13, characterized in that the reaction is also effected with at least one compound of the formula (V),



where

R^{11} and A each have the definition and areas of preference specified under formula (Ic) in Claim 2.

15. (Withdrawn) Process according to one or more of Claims 13 or 14, characterized in that the reaction is also effected with one or more further olefins which can be polymerized by ring-opening metathesis.
16. (Currently Amended) Compounds A polymeric transition metal catalyst precursor comprising a compound of the formula (IV):



where:

R^1 , R^2 , R^3 , R^4 , A and D are each as defined under formula (Ia) in Claim 1.

17. (Currently Amended) A polymeric transition metal catalyst precursor compound comprising: 7-Oxa-2-norborn-2-en-5-ylmethyl 2-isopropoxy-3-ethenylphenyl ether.
18. (Withdrawn) Use of polymeric compounds according to one or more of Claims 1 to 12 as catalysts.
19. (Withdrawn) Process for preparing olefins by catalytic olefin metathesis, characterized in that the catalysts used are polymeric compounds according to one or more of Claims 1 to 12.
20. (Withdrawn) Process according to Claim 19, characterized in that the catalysts are removed from the catalytic reaction mixtures and reused for the preparation of olefins by catalytic olefin metathesis.